

What is Claimed is:

- Sub A13*
1. A gate valve for controlling the flow of fluid through a component having a fluid flow passage that includes at least a first branch and a second branch, the gate valve comprising:
- 5 a gate cavity which communicates with both the first branch and the second branch;
- Third* a gate which is movably positioned in the gate cavity and which includes a first flow port that is connected to a second flow port; and actuating means for moving the gate between an open position, in
- 10 which the first flow port is aligned with the first branch and the second flow port is in communication with the second branch, and a closed position, in which the first flow port is offset from the first branch;
- wherein the second flow port is divergent from the first flow port; whereby when the gate is in the open position, the direction of the
- 15 flow of fluid through the gate valve is changed by the first and second flow ports.
2. The gate valve of claim 1, wherein the second flow port is approximately perpendicular to the first flow port.
3. The gate valve of claim 2, wherein the gate comprises a third flow port which is connected approximately perpendicular to the second flow port and
- 20 which is aligned with the second branch when the gate is in the open position.
4. The gate valve of claim 1, wherein the actuating means comprises: a piston which is connected to the gate and which sealingly engages a conduit that extends from the gate; and

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means for conveying hydraulic pressure to a first portion of the conduit to thereby move the gate in a first direction.

5. The gate valve of claim 4, wherein the actuating means further comprises means for moving the gate in a second direction which is opposite to the first direction.

6. The gate valve of claim 5, wherein the moving means comprises a mechanical biasing means.

7. The gate valve of claim 5, wherein the moving means comprises means for conveying hydraulic pressure to a second portion of the conduit which 10 is separated from the first portion of the conduit by the piston.

Searle 8. A closure member (for use in a tubing hanger which is suspended in a tubing spool and which comprises an elongated body having an annulus bore that extends generally axially therethrough, the annulus bore comprising at least a first branch and a second branch,) the closure member comprising:

15 a gate cavity which communicates with both the first branch and the second branch;

a gate which is movably positioned in the gate cavity and which includes a first flow port that is connected to a second flow port; and

20 actuating means for moving the gate between an open position, in which the first flow port is aligned with the first branch and the second flow port is in communication with the second branch, and a closed position, in which the first flow port is offset from the first branch;

wherein the second flow port is divergent from the first flow port;

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whereby when the gate is in the open position, the direction of the flow of fluid through the closure member is changed by the first and second flow ports.

9. The closure member of claim 8, wherein the second flow port is approximately perpendicular to the first flow port.

10. The closure member of claim 9, wherein the gate comprises a third flow port which is connected approximately perpendicular to the second flow port and which is aligned with the second branch when the gate is in the open position.

10 11. The closure member of claim 8, wherein the actuating means comprises:

a piston which is connected to the gate and which sealingly engages a conduit that extends through the body from the gate; and

15 means for conveying hydraulic pressure to a first portion of the conduit to thereby move the gate in a first direction.

12. The closure member of claim 11, wherein the actuating means further comprises means for moving the gate in a second direction which is opposite to the first direction.

13. The closure member of claim 12, wherein the moving means comprises a mechanical biasing means.

14. The closure member of claim 12, wherein the moving means comprises means for conveying hydraulic pressure to a second portion of the conduit which is separated from the first portion of the conduit by the piston.

15. The closure member of claim 8, wherein the tubing hanger
comprises first and second annular seals positioned between the body and the
tubing spool and the gate cavity extends into the body from between the first and
second seals, wherein pressure within the gate cavity is contained by the first
5 and second seals.

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